

i. transferring fragments of human DNA of less than 1.5 kb in length, said fragments having been tagged at both ends with double-stranded synthetic oligonucleotides that provide restriction enzyme and unique primer sites, from malignant, metastatic cancer cells, into a cell line that produces only benign, non-metastasizing tumours when injected into a syngeneic animal[[:]], thereby producing transformed cells;

ii. injecting the transformed cells into the syngeneic animal;

iii. selecting those animals in which metastasizing tumours have been identified;

and

iv. recovering the regulatory DNA capable of inducing metastasis therefrom.

2. (Previously presented) The method of claim 1 wherein said fragments of human DNA are between 1.3 and 1.5 kb in length.

3. Cancelled.

4. (Previously presented) A method as in claim 1, in which the cell line that produces only benign non-metastasizing tumors is a rat mammary epithelial cell line.

5. (Previously presented) A method as claimed in any of the preceding claims wherein the fragments of human DNA are tagged.

6. (Previously presented) The method of claim 5 wherein the fragments are tagged with a double-stranded synthetic oligonucleotide, one strand whose sequence is SEQ. ID. No. 7 and the other strand whose sequence is SEQ. ID. NO. 8.

7. (Previously presented) A regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis, said regulatory DNA consisting essentially of a human DNA fragment of less than 1.5 kb in length and comprising the sequence of SEQ. ID. NO. 4, obtained from a malignant, metastasis cancer cell.

8. Cancelled.

9. Cancelled.

10. Cancelled.

11. (Previously presented) DNA consisting essentially of a regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis and has the sequence of SEQ. ID. NO. 4.

12. Cancelled.

13. Cancelled.

14. Cancelled.

15. (Currently amended) A probe specific to a regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis as claimed in claim 7, wherein said probe is less than 6000 base pairs in length.

16. (Currently amended) A kit for diagnosing the likelihood of a cancer metastasizing comprising a probe of claim 15 and one or more of a color indicator, an oligonucleotide primer, materials for gel analysis and materials for DNA transfer or ~~hybridisation~~ hybridization.

17. (Currently amended) A ~~medicament~~ composition comprising a DNA adapted to target a regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis as claimed in claim 7.

18. (Previously presented) A method as in claim 2, in which the cell line that produces only benign non-metastasizing tumors is a rat mammary epithelial cell line.

19. (Previously presented) A method as in claim 3, in which the cell line that produces only benign non-metastasizing tumors is a rat mammary epithelial cell line.

23. (Currently amended) A probe specific to a regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis as claimed in claim 11, wherein said probe is less than 6000 base pairs in length.

29. (Currently amended) A ~~medicament~~ composition comprising a DNA adapted to target a regulatory DNA which is not expressed as an mRNA but is capable of inducing metastasis as claimed in claim 11.